

**ENHANCED BANDWIDTH DUAL LAYER CURRENT SHEET ANTENNA****ABSTRACT**

An array of radiating elements including a first set of antenna elements in an array configuration and a second set of antenna elements in an array configuration.

5 The first set of antenna elements is positioned below the second set of antenna elements with the first set acting as an effective ground plane for the second set.

The first set of antenna elements are aligned in a first planar grid pattern of spaced rows and columns and the second set of antenna elements are aligned in a second similar grid pattern rotated at a 45 degree angle relative to the first grid pattern.

10 The array can be configured for wideband operation by having the first band of frequencies adjacent to the second band of frequencies. The array can include a dielectric material interposed between the first plurality of antenna elements and the second plurality of antenna elements.